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10/594,280	09/26/2006	Yoshinori Matsui	2006_1540A	6322
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EXAMINER				
NOFAL, CHRISTOPHER P				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/594,280

Applicant(s)

MATSUI ET AL.

Examiner

Christopher P. Nofal

Art Unit

2169

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 8-10, 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB08)
- Paper No(s)/Mail Date 9/26/2008
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Examiner's Response to Applicant's Election

1. Applicant's election of claims 1 – 7, 11, and 12, drawn to Invention I, in the reply filed on 3/18/2008 is acknowledged. Because applicant did not distinctly and specifically point out any supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 8 – 10 and 13 – 14 have been withdrawn from consideration.

Response to Preliminary Amendment

2. Applicant's preliminary amendment, filed simultaneously with the application, has been received, entered into the record, and considered.
3. Amended claims 1 – 7, 11, and 12, have been examined and are pending in the application.

Priority

4. Receipt is acknowledged of papers submitted under PCT Rule 17.1(a) which papers have been placed of record in the file.

Information Disclosure Statement

5. The information disclosure statement filed fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because there is no publication date provided in the English language for reference AO [see 37 CFR 1.52(b)(1)(ii)]. It has been placed in the application file, but the information referred to therein, that has been lined through, has not been considered as to the merits.

Since an action on the merits is being provided with this Office action, applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Specification

6. The abstract of the disclosure is objected to because the abstract exceeds 150 words, is not limited to 1 paragraph, and does not avoid using phrases which can be implied (i.e. "Provided is a multiplexer..."). Correction is required. See MPEP § 608.01(b).

Applicant is respectfully reminded of the proper language and format for an abstract of the disclosure: The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). The specification fails to provide

sufficient antecedent basis for the terminology “information recording medium.” (See rejection of claims 6 and 7 under 35 U.S.C. 101).

Examiner respectfully reminds applicant that “The mere inclusion of dictionary or art recognized definitions known at the time of filing an application would not be considered new matter.” See MPEP § 2163.07

Drawings

8. **Figures 1 – 4** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated, as admitted by applicant in paragraphs [0002] – [0004] of the disclosure. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

9. **Claim 5** is objected to because of the following informalities: the comma in the phrase “rule of the side information, into” is grammatically unnecessary. Appropriate correction is required.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. **Claims 1 – 5** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The preamble of these claims recites a multiplexer. However, use of the word “multiplexer” does not inherently mean that the claims are directed towards a machine. Only if at least one of the claimed elements is a physical part of a device can the multiplexer constitute part of a device or a combination of devices to be a machine within the meaning of 35 U.S.C. 101. Thus, one of ordinary skill in the art may conclude that the claimed elements may reasonably be implemented as software routines per se.

12. **Claims 1 – 5** are further rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. These claims are be directed towards a multiplexer, which appears to be a data structure per se. However, data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure’s functionality to be realized. See MPEP § 2106.01.

13. **Claims 6 and 7** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The preamble of these claims recites an “information recording medium”; however, the applicant has failed to provide antecedent basis for the claim terminology

“information recording medium” in the specification. Applicant has not provided an explicit and deliberate (i.e. limiting) definition of the terminology. Applicant has merely provided intrinsic evidence of embodiments intended to be covered within the meaning. One of the covered embodiments is “broadcast waves” (paragraph [0093] of the disclosure), which is not a manufacture within the meaning of 101. In such an embodiment, executable instructions are unable to act as a computer component and have their functionality realized.

14. **Claim 12** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 12 fails to fall within a statutory category of invention. It is directed to a program itself, not a process occurring as a result of executing the program, a machine programmed to operate in accordance with the program, nor a manufacture structurally and functionally interconnected with the program in a manner which enables the program to act as a computer to component and realize its functionality. It's also not directed towards a composition of matter. Therefore, the program is not statutory within the meaning of 35 U.S.C. 101.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the

contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. **Claims 1 – 4, 6, 11, and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of **Bachman (US 4,068,300)**, or alternatively as being unpatentable over the admitted prior art in view of **Tiernan et al. (US 6,172,988)**, or alternatively as being unpatentable over the admitted prior art in view of **Goudie et al. (US 2002/0129213)**.

18. Examiner respectfully notes that “A statement by an applicant in the specification or made during prosecution identifying the work of another as ‘prior art’ is an admission which can be relied upon for both anticipation and obviousness determinations.” See MPEP 2169.

19. **As per claim 1**, the **admitted prior art** (i.e. the background section of applicant's specification) discloses a **multiplexer** (paragraph [0001]: a multiplexer) **which generates data by assigning different packet identifiers to (i) one of coded video data and coded audio data** (paragraph [0001]: video data; paragraph [0005]: coded video and audio data), **and (ii) table data regarding the coded data, and packet-multiplexing the coded data and the table data** (paragraph [0001]: packet-multiplexing video data and table data; paragraph [0005]), said multiplexer comprising:

a **main descriptor generating unit operable to generate a main descriptor** (Fig. 3; paragraph [0012]: a descriptor; paragraph [0018]: a descriptor generating unit; Fig. 4 #901)

a **table generating unit operable to generate the table data, by associating the main descriptor generated by said main descriptor generating unit, with the packet identifier of**

the coded data (paragraph [0018]: table generating unit; Fig. 4 #902; Fig. 2; paragraph [0006]: “Program Map Table”),

Although the admitted prior art does not explicitly disclose a sub-descriptor generating unit, this feature would have been obvious over the admitted prior art in view of **Bachman (US 4,068,300)**. **Bachman et al.** discloses the concept of a hierarchy of sub-descriptors as part of a scheme of descriptor for use in data processing (Col. 5, lines 50 – 60: “Also included in the system are record descriptors associated with logical records and field descriptors associated with logical fields each being a subset of the former in the hierarchical scheme. Each descriptor provides information concerning the attributes of the logical structure”). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of **Bachman et al.** into the admitted prior art's teachings of a "main descriptor generating unit operable to generate a main descriptor" in order to develop “a sub-descriptor generating unit operable to generate sub-descriptors, each of which includes a sub-tag value representing a type of side information; and the side information, the side information representing a parameter for decoding the coded data; wherein said sub-descriptor generating unit is operable to output the sub-descriptors in an order defined by a predetermined storage rule; and wherein the main descriptor includes the sub-descriptors generated by said sub-descriptor generating unit, and a main tag value representing a set of the sub-descriptors” because one of ordinary skill in the art would desire to use **Bachman et al.**'s methodology as a reference for solving spatial storage issues while working with descriptors.

Alternatively, the feature of a sub-descriptor generating unit would have been obvious over the admitted prior art in view of **Tiernan et al. (US 6,172,988)**. **Tiernan et al.** discloses generating and storing sub-descriptors associated with private descriptors (Col. 15, lines 3-11) in the TS

Format Convergence sub layer (Col. 15, lines 12-50: "For the purposes of implementing the TS Format Convergence Sublayer of the present invention, definitions for the psi_descriptor() and the dvb_descriptor() are required in the preferred embodiment. The psi_descriptor() signals the presence of MPEG2 PSI data in a named Data Channel. The dvb_descriptor() signals the presence of DVB SI data in a named Data Channel. The format of the psi_descriptor() and the dvb_descriptor() is shown in FIG. 9."). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of **Tiernan et al.** into the admitted prior art's teachings of a "main descriptor generating unit operable to generate a main descriptor" in order to develop "a sub-descriptor generating unit operable to generate sub-descriptors, each of which includes a sub-tag value representing a type of side information; and the side information, the side information representing a parameter for decoding the coded data; wherein said sub-descriptor generating unit is operable to output the sub-descriptors in an order defined by a predetermined storage rule; and wherein the main descriptor includes the sub-descriptors generated by said sub-descriptor generating unit, and a main tag value representing a set of the sub-descriptors" because one of ordinary skill in the art would desire to "combine one or more streams of video, audio, and other data into single or multiple streams suitable for storage or transmission" (Col. 16, lines 8-13).

Lastly, the feature of a sub-descriptor generating unit would have alternatively been obvious over the admitted prior art in view of **Goudie et al. (US 2002/0129213)**. **Goudie et al.** explicitly discloses the features of generating and storing sub-descriptors associated with multiplexed data packets (paragraphs [0046] – [0052]). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of **Goudie et al.** into the admitted prior art's teachings of a "main descriptor generating unit operable to generate a main

descriptor" in order to develop "a sub-descriptor generating unit operable to generate sub-descriptors, each of which includes a sub-tag value representing a type of side information; and the side information, the side information representing a parameter for decoding the coded data; wherein said sub-descriptor generating unit is operable to output the sub-descriptors in an order defined by a predetermined storage rule; and wherein the main descriptor includes the sub-descriptors generated by said sub-descriptor generating unit, and a main tag value representing a set of the sub-descriptors" because one of ordinary skill in the art would desire to use **Goudie et al.**'s methodology as a reference for solving spatial storage issues while storing data packets.

20. **As per claim 2**, the arrangement of sub-descriptors in ascending order of sub-tag values would have been obvious to one of ordinary skill in the art at the time the invention was made because one of ordinary skill in the art would desire to incorporate organization into the storage of data.

The limitation of the sub-tag values being natural numbers is merely nonfunctional descriptive material and not functionally involved in the steps recited. Thus, the descriptive material will not distinguish the claimed invention from the prior art in terms for patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217, USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

21. **As per claim 3**, the feature of classifying the sub-descriptors into groups would have been obvious to one of ordinary skill in the art at the time the invention was made because one of ordinary skill in the art would desire to incorporate organization into the storage of data.

The limitation of the earlier and later groupings is merely nonfunctional descriptive material and not functionally involved in the steps recited. Thus, the descriptive material will not distinguish the claimed invention from the prior art in terms for patentability, see *In re Gulack*, 703 F.2d 1381,

1385, 217, USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

22. **As per claim 4**, the feature of an internal memory is expressly taught (paragraph [0019]; information recording medium) by the admitted prior art. The feature of “sorting the sub-descriptors when the sub-descriptors are not stored in order” would have been obvious to one of ordinary skill in the art at the time the invention was made because one of ordinary skill in the art would desire to incorporate organization into the storage of data.

23. **Claims 6, 11, and 12** are the respective recording medium, method, and computer program claims encompassed by claim 1. Thus, claims 6, 11, and 12 are rejected under the same reasons set forth in connection with the rejection of claim 1.

24. **Claims 5 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over the previously cited references and further in view of **Takahashi et al. (US 6,449,352)**.

25. **As per claim 5**, **Takahashi et al** discloses **multiplexing flag information** (Col. 5, lines 52-62: multiplexes the flag) and **linking management information with the packet-multiplexed data** (Col. 5, lines 62-67: multiplexing reference time signals to manage the multiplexing of packets). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of **Takahashi et al** into the teachings of the cited secondary references and admitted prior art in order to develop the features of “a management information generating unit operable to multiplex flag information for specifying the storage rule of the side information, into management information regarding the packet-multiplexed data; and a linking unit operable to link the management information with the packet-multiplexed data” because one of ordinary skill in the art would desire to use **Takahashi et al.**'s methodology as a reference for generating packets and data multiplexing for coding and decoding of the transmission data.

26. **Claim 7** is the recording medium claim encompassed by claim 1. Thus, claim 7 is rejected under the same reasons set forth in connection with the rejection of claim 1.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Nofal whose telephone number is (571)270-3161. The examiner can normally be reached on Monday through Friday, 8:00 a.m. to 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre M. Vital can be reached on (571) 272-4215. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

1-Jul-08

/Christopher P. Nofal/
Examiner, Art Unit 2169

/JEAN B. FLEURANTIN/
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